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A qualitative exploration into infection control practices and obstacles to improvements amongst health care workers at a regional hospital

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Background: Hospital-acquired infection is a major problem worldwide, particularly in hospitals with limited resources. Hand hygiene is one of the most effective measures to prevent cross-infection but is often practiced poorly, particularly in hospitals in developing countries. Improving hand hygiene behavior amongst hospital staff is difficult. This study aimed to identify obstacles to improved hand hygiene and infection control in a regional hospital.

Methods: We conducted a prospective study at a 1000-bed hospital in northeast Thailand from 1th April 2011 to 30th November 2011 using four methods, as following i) directed observation of hand hygiene practices of healthcare workers (HCWs), ii) self-administered questionnaire to assess personal knowledge and attitude of HCWs toward infection control, iii) focus group discussions to assess culture and group behavior of HCWs towards infection control, and iv) semi-structured interviews to assess obstacles to improvements in infection control.

Results: 1,560 hand hygiene opportunities were directly observed amongst HCWs. Hand hygiene compliance was poor and differed markedly among categories of HCWs. Nurses were 3 times more likely to perform hand hygiene following patient contacts than doctors. Of 1,550 HCWs completing the questionnaire, 76% agreed that hand hygiene is effective in preventing HAIs, but the majority showed limited knowledge of infection control (Median score 60% [range 15% to 80%]). For focus group discussions, almost all discussants stated that personal belief about hand hygiene efficacy, and examples and norms provided by senior hospital staff were of major importance for compliance. Some HCWs suggested that improving hand hygiene practice of physicians would be an effective way of improving hand hygiene generally as all HCWs accepted physicians as role models. For semi-structured interviews, the most common suggestions were to enhance engagement with HCWs, and to improve quality and quantity of hand hygiene resources.

Conclusion: Norms provided by senior staff and personal beliefs about hand hygiene efficacy were considered to be amongst the most important determinants of hand hygiene behaviour. Physicians were widely considered to be important role models, but had the lowest observed hand hygiene compliance. Hand hygiene knowledge and behaviour amongst HCWs needs to be improved.

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Knowledge and practice of healthcare-associated infections among Chinese medical students

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Background: Healthcare-associated infections (HCAIs) occur worldwide and affect both patients and healthcare workers (HCWs), including medical students. Students' clinical skills and performance are influenced by their learning resources. Since not much HCAI-related research has been done in China, this study aimed to investigate HCAI risks associated with clinical medical students and the influence of their learning resource.

Methods: A questionnaire-based survey was done on 4 cohorts (n = 272) of medical students (year 5 in the 5-year program and years 5-7 in the 7-year program) undergoing internship training in Shantou University Medical College-affiliated hospitals in Guangdong, China.

Results: The overall scores of majority of students were between 40 and 59 out of 100, with the mean overall score of 52.54±0.45 (mean ±SE). Students received fairly good scores in hand hygiene (77.57±0.77) and HCAI source (63.16±1.18); relatively weak scores in the isolation precautions (44.59±0.55), HCW safety (45.59±0.86), and personal protective equipment (57.64±0.60); and the weakest score in the HCA-pathogen identification (27.44±0.81). No significant difference was observed among the cohorts in the overall scores and HCAI concept-based categorical scores. The year of education ($r = 0.089$, $P = 0.144$, $n = 272$) or internship placement ($r = 0.077$, $P = 0.206$, $n = 272$) had no significant influence on their level of knowledge.

Conclusion: We identified limited knowledge and practice of medical students in HCAI due to substantial deficiencies in their learning resources. Reconsideration of the medical curricula and preclinical and clinical training is required to improve the situation and thus minimize risk of Healthcare-Associated Infections in China. This may be of great importance in future epidemics and pandemics of infections such as SARS and Influenza as well as the prevention of hospital acquired infections in daily practice.

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